SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
300 Lakeside Drive, P.O. Box 12688
Oakland, CA 94604-2688
(510) 464-6000

January 19, 2016 Writer's telephone number: (510) 287-4750

2016

Via Electronic and Next-Day Delivery

Stephen Artus
Rail Transit Safety Section Program & Project Supervisor
California Public Utilities Commission
505 Van Ness Avenue, Second Floor
San Francisco, CA 94102
stephen.artus@cpuc.ca.gov

Re: BART Warm Springs Extension Project
General Order 95 Fencing Variance Request

Dear Mr. Artus,

The Bay Area Rapid Transit District (BART) hereby requests a variance to CPUC General Order (GO) 95, Section No. 79.4 B, fencing requirements for the BART Warm Springs Extension (WSX) Project to provide fencing that better matches the aesthetics of the planned surrounding environment. Specifically, BART requests approval for the option to install alternative architectural fencing adjacent to the BART guideway at the Warm Springs/South Fremont BART Station site as an equivalent or greater protection to that specified in G0-95.

G0-95, Overhead Electric Line Construction, Section 79.4 Fencing states:

A. At Ground Level

Third rail construction or reconstruction shall not be permitted at ground level unless the rights-of-way, easement or other property upon which the same is located is entirely fenced. Fence construction shall be designed, installed and maintained in such manner as to deny access over, under or through the fencing to all but authorized persons.

B. Material and Height

Fencing material shall be of galvanized steel, woven mesh or links (commonly known as chain–link or cyclone fencing), extending from ground level to a minimum height of seven feet. Above said 7 foot height, there shall be installed an inclined extension of not less than 12 inches, to which shall be attached no fewer than three strands of barbed wire, with said extension being inclined 45° away from the fenced facilities wherever possible.

BART intends to install a 7-foot architectural fence mounted on a stem wall for a total height of 8.5 to 11 feet from finished grade at the public side of the wall to the top of fence. For the portion of the fence beyond the limits of the station platform and supervisor's building, the architectural fence will be further secured by a 12-inch inclined extension with three strands of barbed wire. The extension will be inclined 45° away from the fenced facilities. The portion of the fence along the station platform/supervisor's building will have an anti-climb flashing at the base of the architectural fence which reduces the possibility of a foothold on the stem wall supporting the fence and thus achieving an effective height of 10 to 11 feet above finish grade.

Architedural Fence Features:

- Framing: 16-gage steel, mitered corners, welded, galvanized, painted;
- Wire Mesh: panelized woven steel mesh (10-gage wire), lockcrimp, with square pattern and 1-1/2" openings, galvanized and painted.;
- Barbed wire: 3 strands of PVC coated barbed wire in grey;
- Extension arms: 12" galvanized metal, inclined at 45° and painted to match fence frame;
- Stem wall: reinforced concrete, 12" thick with 2" chamfers and a 12-gage galvanized sheet metal flashing mounted to the top on the public side to prevent the wall ledge from being used as a foothold.

We have enclosed the following drawings for your review:

- Drawings X061 and X062 show the general plan of the WSX Project.
- Sketch of the overall layout of the Warm Springs/South Fremont Station site.
- Drawings C192 and C193 show the location and limits of the alternative fencing.
- Drawings A631-A and A631-B show a typical elevations and cross sections of the alternative fencing.

The Project believes that this configuration will achieve the following:

- Fence will "deny access" as required by G0-95, Section 79.4A.
- Fence will provide an equivalent or greater security for the BART guideway than the requirements of G0-95, Section 79.4B.
- Provide a pleasing environment for the patrons using the BART Warm Springs/South Fremont Station.

Therefore, BART hereby requests a variance from Section 79.4.B, allowing BART to use architedural fence configuration as described above.

Please feel free to contad me if you need any further information.

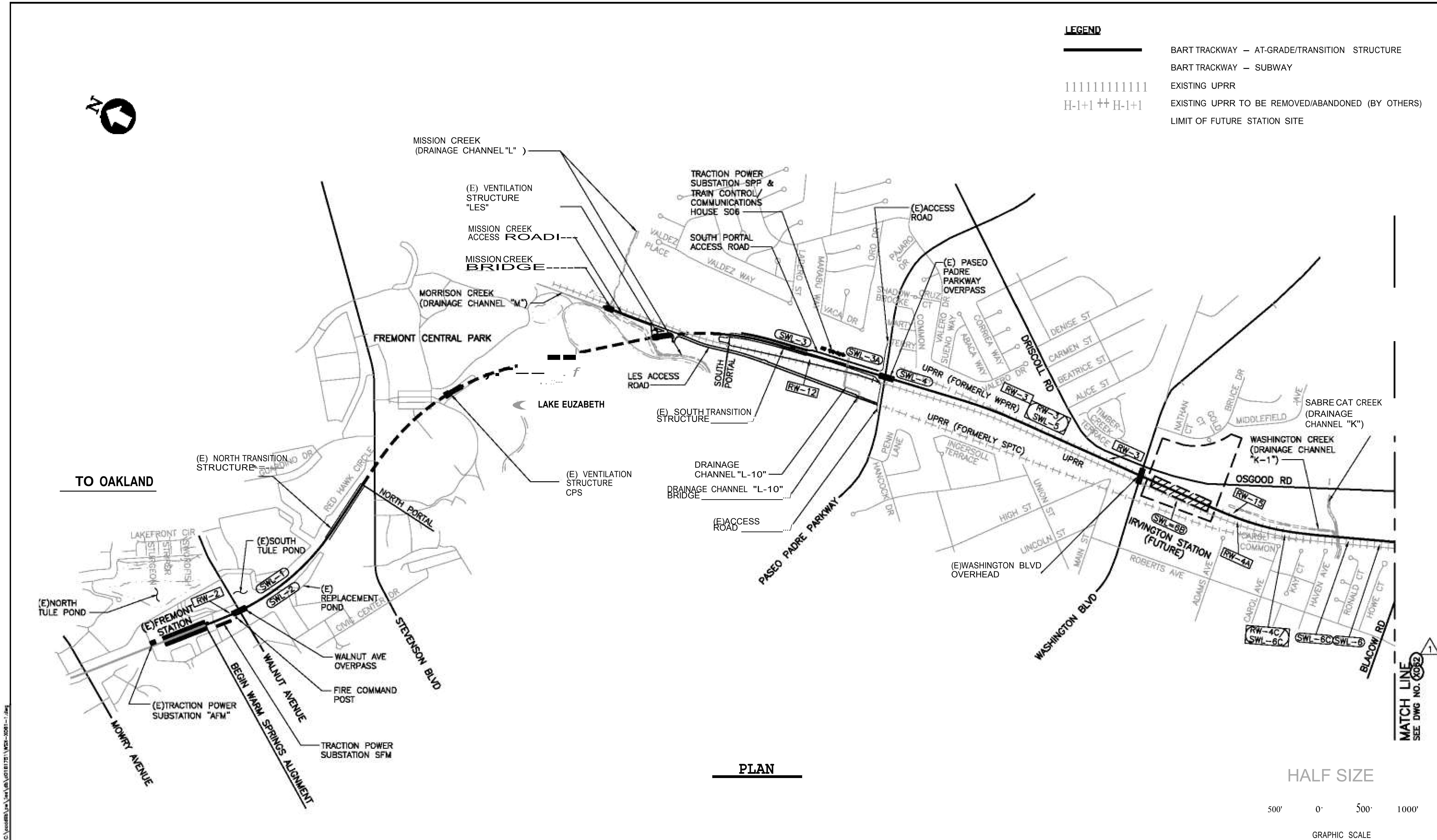
Sincerely,

Paul A. Medved, P.E.
WSX Project Group Manager

Encl.
WSX LTSS General Plan, Dwgs X061 and X062
WSX LTSS Station Site, Sketch
WSX LTSS Fencing Plan, Dwgs C192 and C193
WSX LTSS Architectural Guardrail, Dwgs A631-A and A631-B

Cc:
H. Teo, hteo@bart.gov(via email only)
Z. Fan, zfan@bart.gov (via email only)
D. Silva, dsilva@bart.gov (via email only)
M. Oatman, wsxltss.marty@gmail.com (via email only)
C. Sullivan, colleen.sullivan@cpuc.ca.gov (via email only)
R. Hansen, robert.hansen@cpuc.ca.gov (via email only)

File 2.21, 7.2.23



REV.	DATE	BY	SUB	APP.	DESCRIPTION
1	20150220	JL	SS	SBH	REVISED FOR NDC/FDC NO. 047
0	20120817				FINAL DESIGN

DESIGNED: A. CABRERA
DRAWN: A. CABRERA
CHECKED: L. LEE
APPROVED: S. B-HFRFR
DATE: 2.01502.2.0

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

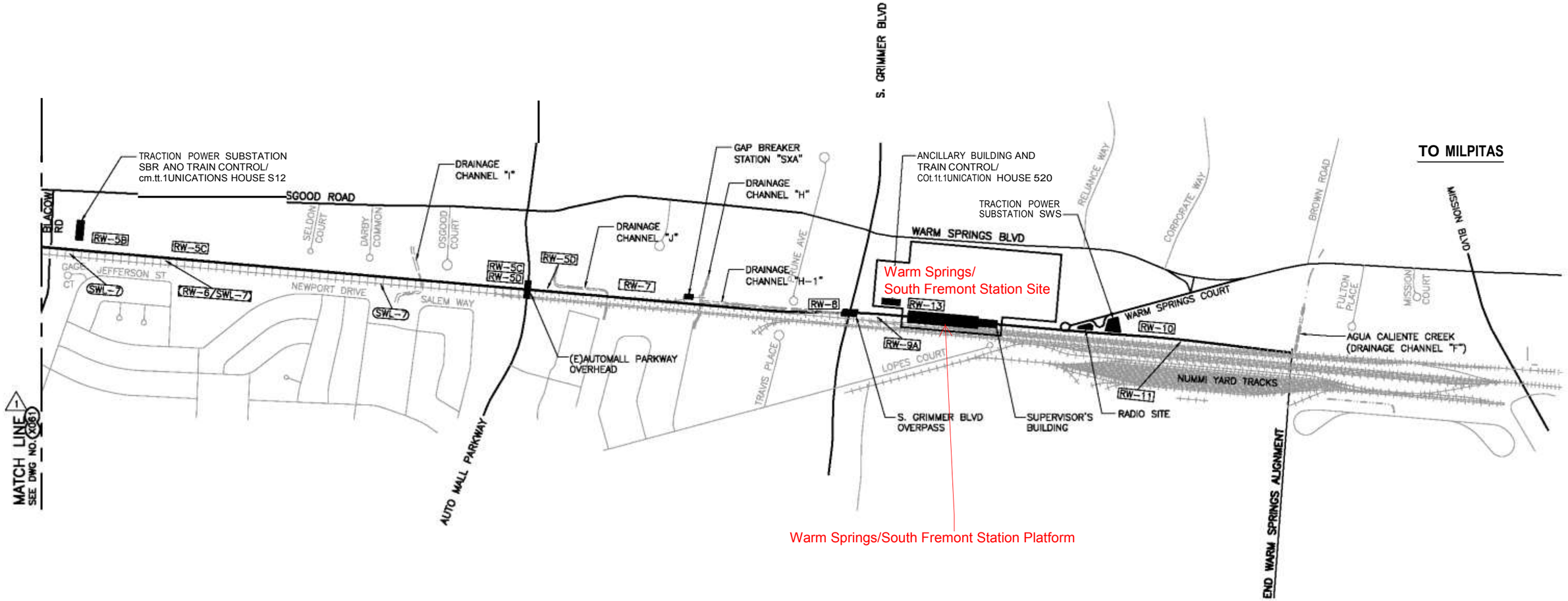
HNTB CORPORATION — SUBMITTED
WARM SPRINGS CONSTRUCTORS — APPROVED

WARM SPRINGS EXTENSION
LINE, TRACK, STATION, AND SYSTEMS

GENERAL PLAN
SHEET 1 OF 2

CADD FILENAME: WSX-X061-1
SIZE: D
SCALE: 1"=500'
CONTRACT NO.: 02EE-120
REV.: 1
CONTRACT SHEET NO.: X061
PAGE NO.: 0050

FOR LEGEND SEE CONTRACT SHEEr NO. X031A.



PLAN

HALF SIZE

500' 0' 500' 1000'

GRAPHIC SCALE

REV.	DATE	BY	SUB	APP.	DESCRIPTION
1	20150220	JL	SS	SBH	REVISED FOR NDC/FDC NO. 047
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DATE: 2.01502.2.0

REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

HNTB CORPORATION — SUBMITTED

WARM SPRINGS CONSTRUCTORS — APPROVED

WARM SPRINGS EXTENSION LINE, TRACK, STATION, AND SYSTEMS

GENERAL PLAN
SHEET 2 OF 2

CADD FILENAME: WSX-X062-1
SIZE: D | SCALE: 1"=500'
CONTRACT NO.: 02EE-120 | REV.: 1
CONTRACT SHEET NO.: X062 | PAGE NO.: 0051

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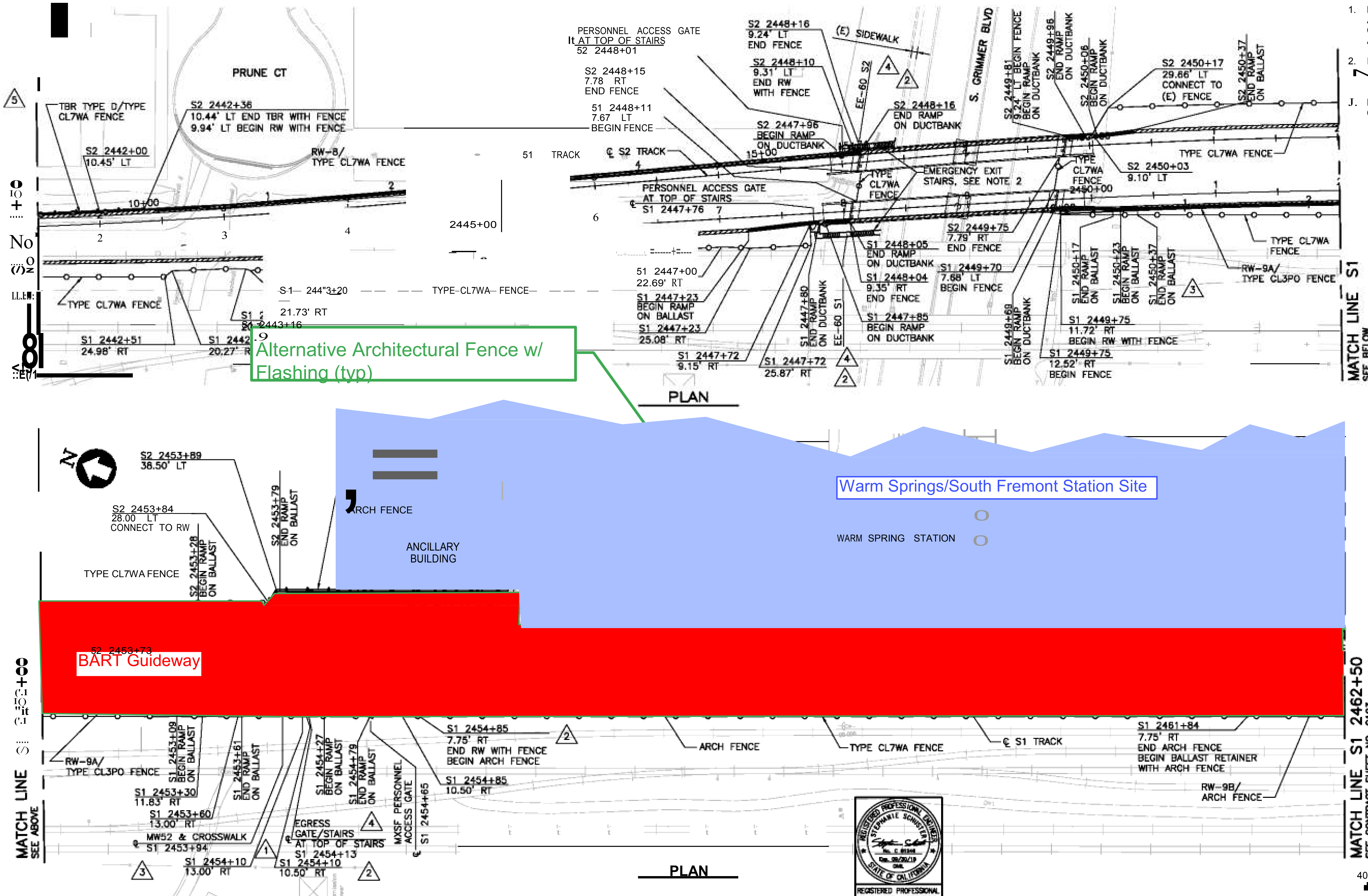


PRUNE CT
TBR TYPE D/TYPE CL7WA FENCE
S2 2442+36 10.44' LT END TBR WITH FENCE 9.94' LT BEGIN RW WITH FENCE
S2 2442+00 10.45' LT
RW-8/ TYPE CL7WA FENCE
51 TRACK
℄ S2 TRACK
2445+00
PERSONNEL ACCESS GATE AT TOP OF STAIRS 52 2448+01
S2 2448+15 7.78 RT END FENCE
51 2448+11 7.67 LT BEGIN FENCE
S2 2448+16 9.24' LT END FENCE
(E) SIDEWALK
S2 2448+10 9.31' LT END RW WITH FENCE
S. GRIMMER BLVD
S2 2448+16 END RAMP ON DUCTBANK
S2 2447+96 BEGIN RAMP ON DUCTBANK
S2 2450+17 29.66' LT CONNECT TO (E) FENCE
TYPE CL7WA FENCE
EMERGENCY EXIT STAIRS, SEE NOTE 2
S2 2450+03 9.10' LT
PERSONNEL ACCESS GATE AT TOP OF STAIRS S1 2447+76
S2 2449+75 7.79' RT END FENCE
S1 2448+05 END RAMP ON DUCTBANK
S1 2448+04 9.35' RT END FENCE
S1 2449+70 7.68' LT BEGIN FENCE
TYPE CL7WA FENCE
RW-9A/ TYPE CL3PO FENCE
51 2447+00 22.69' RT
S1 2447+23 BEGIN RAMP ON BALLAST
S1 2447+23 25.08' RT
S1 2447+85 BEGIN RAMP ON DUCTBANK
S1 2447+72 9.15' RT
S1 2447+72 25.87' RT
S1 2449+75 11.72' RT BEGIN RW WITH FENCE
S1 2449+75 12.52' RT BEGIN FENCE
TYPE CL7WA FENCE
S1 2442+51 24.98' RT
TYPE CL7WA FENCE
MATCH LINE S1 SEE BELOW
Alternative Architectural Fence w/ Flashing (typ)
PLAN
S2 2453+89 38.50' LT
S2 2453+84 28.00 LT CONNECT TO RW
TYPE CL7WA FENCE
ARCH FENCE
ANCILLARY BUILDING
Warm Springs/South Fremont Station Site
WARM SPRING STATION
BART Guideway
RW-9A/ TYPE CL3PO FENCE
S1 2453+30 11.83' RT
S1 2453+60 13.00' RT
MW52 & CROSSWALK S1 2453+94
S1 2454+10 13.00' RT
S1 2454+10 10.50' RT
EGRESS GATE/STAIRS AT TOP OF STAIRS S1 2454+13
MXSF PERSONNEL ACCESS GATE S1 2454+65
S1 2454+85 7.75' RT END RW WITH FENCE BEGIN ARCH FENCE
S1 2454+85 10.50' RT
ARCH FENCE
TYPE CL7WA FENCE
℄ S1 TRACK
S1 2461+84 7.75' RT END ARCH FENCE BEGIN BALLAST RETAINER WITH ARCH FENCE
RW-9B/ ARCH FENCE
MATCH LINE S1 2462+50 SEE CONTRACT SHEET NO. C193
MATCH LINE SEE ABOVE
PLAN

1. FOR ADDITIONAL NOTES, LEGEND AND ABBREVIATIONS, SEE CONTRACT SHEET NOS. C001 AND C181.
2. FOR STAIRWAY DETAILS, SEE NOS. C502.
3. FOR STAIR TO PLATFORM, SEE CONTRACT SHEET NO. A471.

REGISTERED PROFESSIONAL ENGINEER CERTIFIES REVISION 6 ONLY

HALF SIZE

40' 0' 40' 80'
GRAPHIC SCALE

REV.	DATE	BY		
5	20130612	MO	SBH	REVISED FOR NDC/RIC NO. 001
4	20130712	MO	SBH	REVISED FOR NDC/RIC NO. 020
3	20130212	MO	SBH	REVISED FOR NDC/RIC NO. 013
2	20121031	MO	SBH	REVISED FOR NDC/RIC NO. 007
1	20121011	J1	SBH	REVISED FOR CHANGE NOTICE NO. 23
0	20120731			FINAL DESIGN
6	20150220			REVISED FOR NDC/FDC NO. 047

DESIGNED: E. CHHOW
J. LEE
CIE ED: M. LOPEZ
APPROVED: S. HEBER
DATE: 20150220

ORIGINAL DRAWING BEARS THE REGISTERED PROFESSIONAL ENGINEER SEAL No.C 71215 AND SIGNATURE OF: MIGUEL A. LOPEZ

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

HNTB CORPORATION — SUBMITTED — ORIGINAL SIGNED BY: S. HEBER

WARM SPRINGS CONSTRUCTORS — APPROVED — ORIGINAL SIGNED BY: G. WARING

WARM SPRINGS EXTENSION LINE, TRACK, STATION, AND SYSTEMS

WALKWAY, RETAINING WALL, AND FENCING PLAN
51 2441+50 TO S1 2462+50

CADD FILENAME: WSX-C192-6
SIZE: D
SCALE: 1"=40'
CONTRACT NO.: 02EE-120
REV.: 6
CONTRACT SHEET NO.: C192
PAGE NO.: 0122

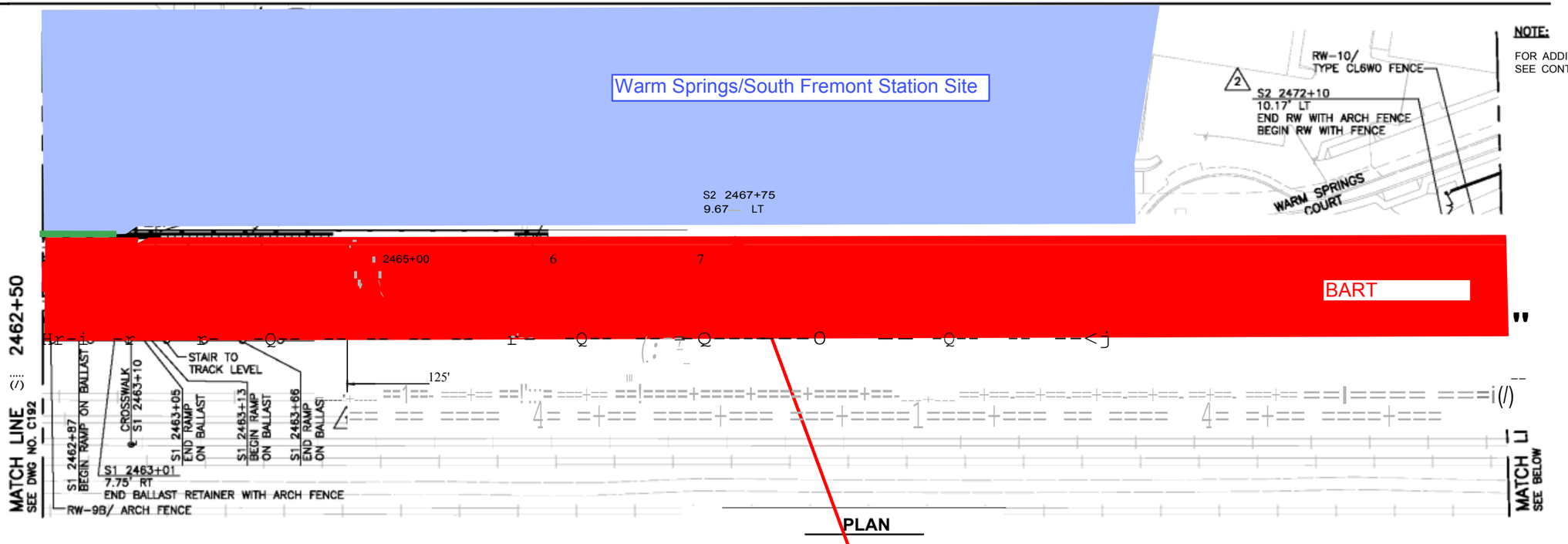
Warm Springs/South Fremont Station Site

BART

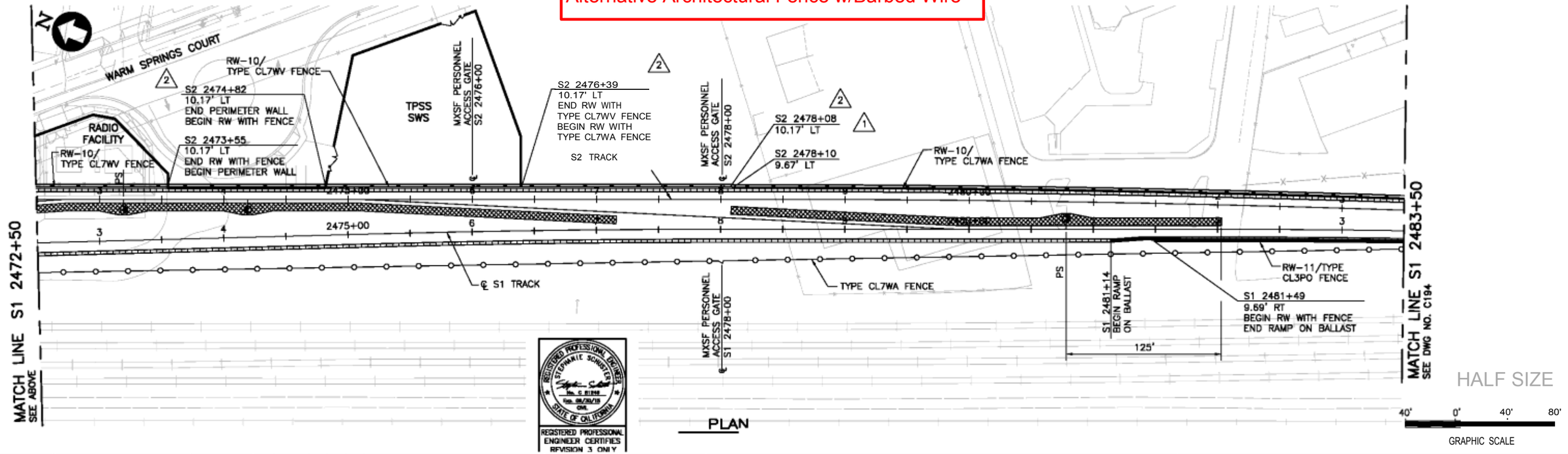
Alternative Architectural Fence w/Barbed Wire

NOTE:

FOR ADDITIONAL NOTES, LEGEND AND ABBREVIATIONS, SEE CONTRACT SHEET NOS. COOI AND C181.



PLAN



PLAN

HALF SIZE

40' 0' 40' 80'

GRAPHIC SCALE

REGISTERED PROFESSIONAL ENGINEER STEPHANIE SCHUSTER No. C 61848 Exp. 06/30/15 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER CERTIFIES REVISION 3 ONLY

REV.	DATE				
3	20150220	JL	SS	SBH	REVISED FOR NOC/FDC NO. 047
2	20130212	MO	ML	SBH	REVISED FOR NIJC/FDC NO. 01J
1	20121031	MO	ML	SBH	REVISED FOR NIJC/FDC NO. 007
0	20120731				FINAL DESIGN

DESIGNED: E. CHHOW
DRAWN: J. LEE
CHECKED: M. LOPEZ
NTRCIIEJI: S. B-HESER
DIIIS: 2.01502.2.0

ORIGINAL DRAWING BEARS IHE REGISTERED PIIOFESSIOIIW.. ENGINEER SEAL No.C 71215 AND SIGNATIJRE OF: MIGUEL A. LOPEZ

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

HNTB CORPORATION	WARM SPRINGS CONSTRUCTORS
SUBWITIED ORIGINAL SIGNED BY: S. B-HEBER	APPRO\IED ORIGINAL SIGNED BY: G. WARING

WARM SPRINGS EXTENSION LINE, TRACK, STATION, AND SYSTEMS

WMJ<WAY, RETAINING WALL, AND FENCING PLAN
51 2462+50 TO 51 2483+50

CADD FILENAME WSX-C193-3

SIZE: D | SCALE: 1"=40'
CONTRACT NO. 02EE-120 | REV. 3
CONTRACT SHEET NO. C193 | PAGE NO. 3 of 123

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3 STRANDS OF PVC COATED BARBED WIRES (COLOR: GRAY)

ATTACHED TO BARB WIRE EXTENSION ARMS, TYP

LIGHT POLE ℄

45 * TYP

OF GUARDRAIL AND CONCRETE WALL

3/8 '

T/O GUIDEWAY GUARDRAIL ' EL: +58.31

GUIDEWAY ARCHITECTURAL FENCE

12 6" TYP

SIGN & TRAIN

DOOR INDICATOR

EQ

EQ

5'-0" TYP

1. ALTERNATE PANEL PATTERN AS SHOWN, SEE ELEVATIONS
2. FOR STATION IDENTIFICATION SIGN LOCATION SEE A821-A824

INSTALL BARB WIRE ARM EXTENSION 10'-0" APART (CENTER TO FENCE POST), TYPICAL

jSS 3 1/2 X 3 1/2 rRAMING MEMBERS

2X2 ANGLE, WELD TO FRAME MEMBER PER MFR GALV PAINTED SELF-TAPPING

ALUMINUM

PLAouEsiGN- -coWorm Springs/South Fre mont

2X 1/4" STEEL BAR

ARM O/TOP OF FENCE FRAME,

FASTENERS PER MFR

INSTALL BARB WIRE EXTENSION

WIRE MESH

PAINT TO MATCH FENCE FRAME

FINISH, TYP

P"'TJ

T/O GUIDEWAY GUARDRAIL

HOLD 1'-0" FROM FENCE EDGE WHERE LIGHT POLE OCCURS, TYP

TAMPER-PROOF

ALUMINUM SIGN, SCREW THROUGH TO FRAMING MEMBERS WITH S/S SCREWS

12" CONCRETE WALL W/2" CONT CHAMFER EDGES, TYP, SSD

CONTRACTION JOINT MIDWAY BETWEEN STATION COLUMNS, TYP, SSD

T/O CONC WALL EL: +51.31'

T/O STATION PLATFORM EL: +50.56

SEPARATE ALUMINUM FROM STEEL MEMBER

HSS 3 1/2 X 3 1/2 FRAMING MEMBERS

TRACK SIDE

XP BOLT FRAME To CONCRETE WALL

EMBED HSS 4.5X4.5 SLEEVE FOR INSTALLATION OF FENCE POSTS

EQ

EQ

GUIDEWAY GUARDRAIL

SCALE: 3/4"=1'-0"

(13) A631

A201 A202 A204 A302 A304 A305 A311 A312 A313 A314 A466

HALF SIZE

FILL CAVITY
W/NON–SHRINK
GROUT

PUBLIC SID
E

TRACK SIDE

ARCHITECTURAL FENCE W/BARBED WIRE

GUIDEWAY GUARDRAIL
SCALE: 3" =1.0"

A802 AB05
A803 A806
A63 A804 A807

WARM SPRINGS EXTENSION

QADD FILENAME
WSX–A631-0

S TAMAGAWA
CHECKED,

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

HNTB CORPORATION / FMG ARCHITECTS

WARM SPRINGS CONSTRUCTORS

LINE, TRACK, STATION AND SYSTEMS

SIZE: D
SCALE AS NOTED

WARM SPRINGS STATION
GUIDEWAY ARCHITECTURAL GUARDRAIL SYSTEM
DETAILS

-A

REV DESCRIPTION DATE APPROVED

20130322 SUBMITTED

CONTRACT NO. 02EE-120 REV. 0
CONTRACT SHEET NO. A631 PAGE NO. 205

LIGHT POLE ℄

1. ALTERNATE PANEL PATTERN AS SHOWN, SEE ELEVATIONS
2. FOR STATION IDENTIFICATION SIGN LOCATION SEE A821-A824

OF GUARDRAIL
AND CONCRETE
WALL

3/8 '

T/O GUIDEWAY
GUARDRAIL
EL: +58.31

jSS 3 1/2 X 3 1/2
rRAMING MEMBERS

2X2 ANGLE, WELD TO
FRAME MEMBER PER MFR
GALV PAINTED
SELF-TAPPING

2X 1/4" STEEL BAR

FASTENERS PER MFR

WIRE MESH

TAMPER-PROOF

GUIDEWAY
ARCHITECTURAL
FENCE

ALUMINUM

12'-6" TYP

SIGN & TRAIN

EQ

DOOR INDICATOR

EQ

5'-0" TYP

T/O GUIDEWAY
GUARDRAIL

ALUMINUM SIGN, SCREW
THROUGH TO FRAMING
MEMBERS WITH S/S
SCREWS

SEPARATE ALUMINUM
FROM STEEL MEMBER

HSS 3 1/2 X 3 1/2
FRAMING MEMBERS

TRACK SIDE

3 1/2" POST (BEYOND)

2" 2 1/4" 4 1/4"

XP BOLT FRAME To
CONCRETE WALL

2" MIN

2" MIN 4 1/2"+/-

EQ EQ

EMBED HSS 4.5X4.5
SLEEVE FOR
INSTALLATION OF
FENCE POSTS

12" CONCRETE
WALL W/2" CONT
CHAMFER EDGES,
TYP, SSD

CONTRACTION JOINT
MIDWAY BETWEEN
STATION COLUMNS,
TYP, SSD

T/O CONC WALL
EL: +51.31'

T/O SURFACE AIL
EL: +50.56

GUIDEWAY GUARDRAIL

SCALE: 3/4"=1'-0"

(13) A631 — A201 A202 A204 A302 A304 A305 A311 A312 A313 A314 A466

ISOMETRIC VIEW

NOTCH HORIZONTAL RETURN TO FIT TIGHT AROUND POST, TYP

WHERE FLASHING JOINTS OCCUR ALIGN/BUTT JOINTS @ FENCE POST CENTERLINE / COVER JOINT WITH LAP FLASHING (MIN WIDTH

OUTLINE OF SHEET METAL FLASHING @ FENCE & WALL BASE WHERE REQUIRED, TYP

SECURE FLASHING TO FENCE POST W/ 3/8-16 TAMPER-PROOF GALV MACHINE SCREW W/BUTTON HEAD & MIN 1" DIAMETER WASHER - PAINT TO MATCH FLASHING - TAP THREAD HOLE @ FENCE POST ACCORDINGLY TO RECIEVE SCREW, TYP

HALF SIZE

FILL CAVITY W/NON–SHRINK GROUT

CONTINUOUS PREFORMED 12GA GALV SHEET METAL FLASHING ATTACHED TO CONCRETE WALL BASE AND STEEL POST, PAINT FINISH TO MATCH STEEL FRAME FINISH, TYP

SAME AS POST WIDTH), TYP

SECURE FLASING TO CONCRETE BASE W/ 3/8-16 TAMPER-PROOF GALV EXPANSION BOLT W/BUTTON HEAD & 1" MIN DIA WASHER (MIN 1-1/2" EMBEDMENT) - PAINT TO MATCH FLASHING, TYP

PUBLIC SID

E

TRACK SIDE

GUIDEWAY GUARDRAIL

A802 AB05 A803 A806 A63 A804 A807

ARCHITECTURAL FENCE W/FLASHING

S TAMAGAWA

CHECKED,

20130322 SUBMITTED APPROVED

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

HNTB CORPORATION / FMG ARCHITECTS WARM SPRINGS CONSTRUCTORS

WARM SPRINGS EXTENSION

CADD FILENAME WSX–A631-0

LINE, TRACK, STATION AND SYSTEMS

SIZE: D SCALE: AS NOTED

WARM SPRINGS STATION GUIDEWAY ARCHITECTURAL GUARDRAIL SYSTEM DETAILS

-B

CONTRACT NO. 02EE-120 REV. 0

CONTRACT SHEET NO. A631 PAGE NO. 205